

in Nebraska caused a suspension of railroad traffic and did great damage to crops. On the 23d the river was falling at Kansas City, Mo., and on the 28th the river was reported rising and near the danger-line at that place. On the 29th the Missouri River was 21.9 feet, 0.9 foot above the danger-line, at Kansas City, and rising, and sections of railroad and bottom lands were under water. Damage was reported above Kansas City at points on the Missouri River in Nebraska, Kansas, and Missouri.

On the 30th the stage of the water at Kansas City was 22.8 feet, a rise of 0.9 foot in 24 hours. The village of Harlem, on the Missouri River opposite Kansas City, was partially sub-

merged, and the residents were moving to higher ground; considerable damage was caused along the water front in Kansas City, and tracts of farming land were under water. On the Kansas side of the river, opposite Saint Joseph, Mo., and at points in Nebraska, the Missouri River was over its banks. During the last few days of the month a part of the Colorado Desert basin in San Diego county, Cal., near the line of the Southern Pacific Railroad, was being rapidly filled with water. At this point there is a great inland basin which is more than 200 feet below the level of the sea at its lowest point. At the close of the month a lake about five miles in width had formed.

MISCELLANEOUS PHENOMENA.

DROUTH.

In parts of southern Louisiana crops, especially corn, were damaged by dry weather. In south-west Mississippi the rainfall was insufficient and badly distributed, and crops of all kinds were suffering. In west-central Alabama drouth injured early corn, cotton, and garden vegetables. In north-east Pennsylvania the month was very dry and many small streams dried up. In Clark county, Ky., crops were reported in a bad condition the early part of the month owing to drouth. A report from Shreveport, La., dated the 6th, stated that crops were greatly in need of rain, and that many cisterns were dry. During the early part of the month the Mohawk Valley, N. Y., suffered severely from drouth; the Mohawk River was at the lowest stage in several years, and many wells and cisterns were dry. Drouth also prevailed the first half of the month in Jefferson, Lewis, Otsego, and Saint Lawrence counties, N. Y., and in Connecticut. In parts of Connecticut, and in Middlesex and Somerset counties, N. J., there was a scarcity of water and great need of rain at the close of the month. In the central and northern counties of Michigan the rainfall was insufficient and pastures, corn, wheat, and hay promised a small yield.

SUN SPOTS.

Mr. D. E. Hadden, Alta, Iowa: 1st, 5 groups, 14 spots; new group with faculae by rotation on e. limb. 2d, 4 groups, 8 spots. 3d, 4 groups, 14 spots; new group in faculae e.; faculae disappearing by rotation. 8th, 1 group, 11 spots; large area of faculae by rotation in on ne. limb. 9th, 2 groups, 12 spots; new group e., east of faculae. 10th, 3 groups, 18 spots; new group and faculae by rotation in on e. limb. 11th, 3 groups, 13 spots; group and faculae disappearing by rotation. 12th, 2 groups, 13 spots; large group of faculae by rotation on ne. limb; small group of faculae in on e. limb; 2 groups of faculae on w. limb disappearing by solar rotation. 13th, 4 groups, 17 spots; new group with large spot on edge e. limb by rotation in faculae; other new group e. 14th, 4 groups, 20 spots; groups n. latitude. 15th, 5 groups; faculae 1 day in on e. limb. 22d, 6 groups; faculae by rotation e. limb. 25th, 6 groups, 30 spots; 1 group disappearing by solar rotation. 27th, 7 groups, 34 spots; faculae by rotation in on e. limb. 28th, 5 groups, 22 spots; large spot had umbra and penumbra. 29th, 5 groups, 15 spots; 1 large spot. 30th, 5 groups, 12 spots; haze, could not count spots accurately; group by rotation on e. limb.

Mr. John W. James, Riley, Ill.: the group of the 28th of

May vanished 9th, short of w. edge, faculae taking its place 7th, new group on e. edge, its largest spot estimated 22,000 miles in diameter. 12th, another new group 2 days on e. edge. 14th, large spot and group on e. edge. 16th, new group 3 days on edge; prominent faculae e. of large spot of 14th. 21st, 1 new spot, and 2 new groups near e. edge; new group 3 days from w. edge. 22d, 1 new spot near e. edge; immense areas of faculae near e. and w. limbs; could trace them two-thirds sun's apparent diameter. 24th, 2 new groups of small spots 3 days in on e. edge in s. latitude; these increased rapidly in size, 1 spot reaching an estimated diameter of 22,000 miles in 2 or 3 days. 26th, 1 new spot on e. limb. 28th, 2 new groups n. of spot of 24th, and 1 faint spot with faculae near e. edge.

Mr. H. D. Govey, North Lewisburgh, Ohio: sun spots were observed on the 2d, 3d, and 9th to 30th.

Haverford College Observatory, Pa. (observed by Prof. F. P. Leavenworth):

Date.	Number of new		Disappeared by solar rotation.		Reappeared by solar rotation.		Total number visible.		Faculae.	Remarks.
	Groups.	Spots.	Groups.	Spots.	Groups.	Spots.	Groups.	Spots.		
June, 1891.										
1, 10 a. m.	2	2	0	0	...	...	5	32	2	Definition fair; 3 large spots.
2, 11 a. m.	1	1	0	0	...	...	6	35	4	Definition good; 2 large spots.
3, 9 a. m.	0	0	1	3	...	...	4	33	3	Definition fair.
4, 11 a. m.	0	0	1	5	...	...	3	20	1	Definition fair.
8, 11 a. m.	0	0	1	3	...	...	1	11	1	Definition poor.
9, 11 a. m.	1	7	0	0	...	...	2	17	0	Definition poor.
10, 10 a. m.	1	1	0	0	...	...	3	29	2	Definition poor; 1 large spot.
11, 9 a. m.	0	0	0	0	...	...	3	19	2	Definition poor; 1 large spot.
12, 3 p. m.	2	11	0	0	...	...	5	66	3	Definition fine; 1 large spot.
13, 11 a. m.	1	1	1	3	...	...	4	24	3	Definition good; 2 large spots.
14, 10 a. m.	1	1	0	0	...	...	5	39	2	Definition good; 2 large spots.
15, 10 a. m.	1	16	0	0	...	...	6	47	3	Definition good; 2 large spots.
16, 9 a. m.	2	42	0	0	...	...	6	88	2	Definition good; 2 large spots.
17, 9 a. m.	4	12	1	10	...	...	5	100	2	Definition fair; 1 large spot.
22, 9 a. m.	4	12	0	0	...	...	9	69	5	Definition good; 2 large spots.
23, 9 a. m.	1	2	2	14	...	...	7	48	3	Definition good; 3 large spots.
24, 9 a. m.	2	4	0	3	...	...	9	43	3	Definition good; 3 large spots.
25, 9 a. m.	3	18	1	3	...	...	8	54	3	Definition fair; 2 large spots.*
26, 9 a. m.	1	49	1	4	...	...	7	108	3	Definition good; 4 large spots.
27, 8 a. m.	0	0	1	1	...	...	6	56	2	Definition poor; 4 large spots.
28, 9 a. m.	2	10	...	...	...	...	7	70	2	Definition fair; 3 large spots.
29, 9 a. m.	0	0	...	...	...	...	6	61	1	Definition good; 1 large spot.
30, 9 a. m.	1	1	...	...	...	...	7	35	2	Definition good.

* Immense faculae.

ATMOSPHERIC ELECTRICITY.

AUORAS.

Auroras were reported as follows: 4th, Eastport, Orono, and Kent's Hill, Me.; Sault de Ste. Marie, Mich. 5th, Kent's Hill, Me.; Sault de Ste. Marie, Mich. 8th, Sault de Ste. Marie, Mich. 15th, Westfield, Wis. 25th, Sandwich, Ill.

26th, Farmington, Me. 29th, Amana, Iowa; Farmington, Me. On the 4th, about 1 a. m., an aurora of a grayish blue tint, extending from north to northeast and to altitude about 30°, was observed at Sault de Ste. Marie, Mich. It had the appearance of a brilliant curtain, with numerous bright beams